

NEW AFRICAN HIPPOBOSCIDÆ.

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The types of the two species and of the variety described below are in the British Museum (Natural History).

Genus HIPPOBOSCA, Linn.

Hippobosca hirsuta, sp. n. (fig. 1, *a* and *b*).

♂ ♀.—Length, ♂ (3 specimens) 7 mm., ♀ (2 specimens, both gravid) 8 to 8.6 mm.; width of head (both sexes) 2.2 to 2.25 mm.; approximate greatest width of front in both sexes 1 mm.; length of wing, ♂ 7.5 to 7.8 mm., ♀ 8.2 mm.

Thorax chestnut, with, on dorsum, faint and somewhat reduced Naples-yellow markings of usual Hippobosca-type (see fig. 1, a), scutellum however dark brown, with a large and very conspicuous, straw-yellow, median spot, shaped as shown in fig. 1 a; abdomen in dried specimens clove-brown, with the usual shining black callosities at posterior extremity; head, body and legs clothed with relatively long, pale, glistening, straw-yellow or yellowish-white hair, which on dorsum of thorax and on legs is rough, coarse, and almost erect; front legs ochraceous-rufous, middle and hind legs orange-rufous, extreme tips of middle and hind femora dark brown above.

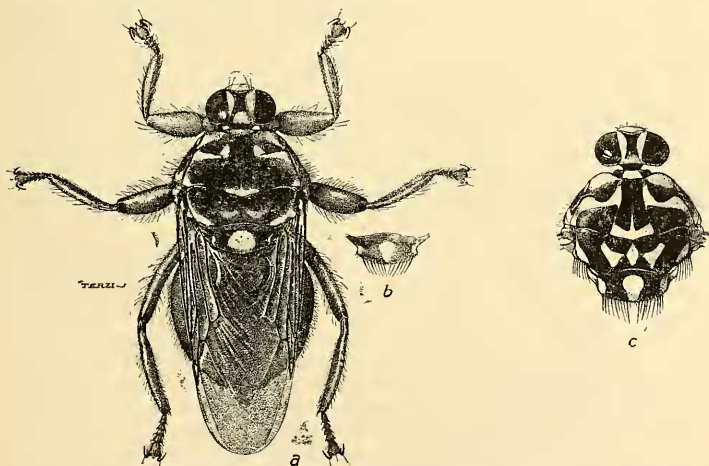


Fig. 1.—*a*, *Hippobosca hirsuta*, Austen. ♀. × 6. *b*, Scutellum of *Hippobosca hirsuta* var. *neavei*, Austen. × 6. *c*, Head and thorax of *Hippobosca maculata*, Leach. × 6.—From a specimen from Lorenzo Marquez: to show differences between thoracic markings in this species and in *H. hirsuta*, Austen.

Head shining straw-yellow, sides of front shining buff-yellow, *frontal stripe* dull Vandyke-brown; *palpi* dark brown, clothed with hair of same colour and character as that on head itself; inner margins of sides of front fringed with long hair. *Thorax*: Naples-yellow markings on dorsum (except scutellum) of same kind as those exhibited by *Hippobosca maculata*, Leach, and *H. camelina*, Leach, but much less distinct and sharply defined; in front of transverse suture, transverse mark behind each humeral callus, though present, is usually less distinct than it appears in fig. 1 *a*, while in middle line, and resting on transverse suture, the lateral arms of the mark that in case of *H. maculata* resembles a cruciform sword-hilt are shortened and rounded off, much as they are in *H. camelina*; behind transverse suture the median rhomboid mark seen in *H. maculata* has disappeared, and the admedian marks, instead of having definite outlines, as is usually the case in *H. maculata*, are ill-defined and more or less indistinct (*cf. a* and *c*, fig. 1); basalangles of scutellum Naples-yellow; hair on pectus paler, finer, and denser than on dorsum. *Wings*: sepia-coloured, principal veins dark brown. *Legs*: last joint of middle and hind tarsi dark brown above; claws black.

UGANDA PROTECTORATE: type of ♂, type of ♀, and one other ♀ from Mohokya, Toro Plains, 14. III. 1911 (*Dr. R. A. L. Van Someren*); also 2 ♂♂ from the vicinity of the north-east shore of Lake Ruisamba (or Dweru), South Toro, 1910 (*Captain F. P. Mackie, I.M.S.*, per Colonel Sir David Bruce, C.B., A.M.S., F.R.S.).

All the foregoing specimens, as well as those enumerated below as belonging to a variety of *Hippobosca hirsuta*, were caught on Waterbucks (*Kobus defassa*, Rüppell), on which antelope this fly would consequently appear to be specially parasitic. Whether indeed it occurs on any other species of game cannot yet be stated. As regards the possibility of its playing a part in the dissemination of animal trypanosomiasis, while prolonged experiments and observations will of course be needed in order to determine whether *H. hirsuta* ever acts as a disease-carrier if it should find its way on to domestic animals, it may be interesting to note that, when writing to the author from Toro, in February last, Dr. Van Someren mentioned that he had "infected a monkey with these fly caught on a Waterbuck, whose blood showed trypanosomes (? *T. pecorum*, Bruce)."

While evidently allied to *Hippobosca maculata*, Leach, reddish specimens of which it resembles in general appearance, *H. hirsuta*, in addition to the differences in the thoracic markings described and illustrated above, is distinguishable from that widely distributed species by the much greater width of its front and frontal stripe,* the hairiness of the dorsum of the thorax, and the absence of a dark brown, elongate patch on the inside of the distal extremity of the hind tibiae. The infuscation of the distal extremities of the middle and hind femora in *H. maculata*, though often very extensive and much more so than the corresponding markings in the case of *H. hirsuta*, is subject to considerable individual variation, and cannot be relied upon as a distinctive character.

From *Hippobosca camelina*, Leach, *H. hirsuta*, apart from its smaller size, may be distinguished by the indistinctness of the post-sutural, admedian, thoracic

* These differences are unfortunately not brought out with sufficient clearness in the figures.

markings, the much greater hairiness of the dorsum of the thorax, and the greater coarseness and outstanding character of the hair on the hind femora.

Larva.—A larva of this species in the British Museum (Natural History), deposited by a ♀ taken by Dr. Van Someren at Mohokya, Toro, Uganda Protectorate, in February, 1911 (presented by the Entomological Research Committee), is of the usual *Hippobosca*-type, *i.e.*, ovoid or flattened globular in shape, and cream-buff in colour, with, at the narrower (posterior) extremity, a very conspicuous black cap, which exhibits two prominences separated by a broad vertical groove. The dimensions of this specimen are:—length 4 mm., greatest breadth, 3·5 mm.

Hippobosca hirsuta var. *neavei*, var. n.

♂ ♀.—Length, ♂ (6 specimens) 6 to 6·5 mm., ♀ (4 specimens) 6·75 mm. (non-gravid) to 9 mm. (gravid); width of head (both sexes) 2 mm. to 2·2 mm.; width of front (both sexes) just under 1 mm. to 1 mm.; length of wing, ♂ 6·75 to 7·6 mm., ♀ 7·2 to 7·75.

Apart from being on the whole somewhat smaller in size, as indicated by the dimensions given above, agreeing in all essential respects except shape of median spot on scutellum, with typical form; median spot on scutellum—instead of being large, rounded in front, and flattened behind—small and shaped as shown in Fig. 1, b, that is, more or less triangular, with apex of triangle resting on hind margin.

Head: anterior portion of plate on vertex usually brown or brownish. *Thorax*: scutellum on each side of median spot, except basal angles, generally ochraceous or ochraceous-buff rather than dark brown.

NORTH-EASTERN RHODESIA (Luangwa River Valley): type of ♂, type of ♀, and two other ♂♂ from the junction of the Mpamadzi and Luangwa Rivers, 24. VIII. 1910; two ♂♂, two ♀♀ from the Upper Luangwa River, 3. VIII. 1910; one ♂, one ♀ from the Mid Luangwa River, 12. VIII. 1910 (*S. A. Neave*: presented by the Entomological Research Committee).

The whole of these specimens were taken on Waterbucks, and there seems no reason to consider them as representing anything more than a variety of the *Hippobosca* infesting the same animal in Uganda, which is here regarded as the typical form.

Genus OLFERSIA, Wied.

Olfersia dukei, sp. n.

♀.—Length (1 specimen) 7 mm.; width of head 2 mm.; width of front at vertex 1·4 mm.; length of wing 9·4 mm.

General coloration black or clove-brown; sides of front (frontal margins or parafrontals), plate on vertex, and dorsum of thorax (except humeral calli) shining black or blackish clove-brown; abdomen, dorsal surfaces of middle and hind legs, and dorsal surface of front femora clove-brown; anterior two-thirds of inner borders of sides of front clothed with fairly long yellowish hair, with as usual a single longer black hair in front and behind; wings sepia-coloured.

Head: shining plate on vertex transversely elongate, anterior angles rounded off, length of hind margin at least two and a half times as great as depth of plate

from front to rear; frontal stripe (in dried specimen) clove-brown; face raw-umber-coloured in centre, dark brown on each side below; jowls and under surface of head on each side mummy-brown, central area of under surface of head ochraceous buff; under surface of head clothed with bright, ochre-yellow hair; *palpi* relatively rather narrow (from above downwards) and elongate, their outer surfaces dark brown or clove-brown, and clothed with brownish hair; visible portion of *antennæ* shining dark brown, clothed with black hair. *Thorax*: humeral calli raw-umber-coloured, dark brown behind, clothed above with black mixed with ochre-yellow hairs; portion of dorsum immediately behind humeral calli, and in front of transverse suture, clothed with appressed, ochre-yellow hairs; hind margin of scutellum and portion of thorax immediately in front of scutellum also clothed with ochre-yellow hairs; pleuræ blackish and clothed with similarly-coloured hair; pectus raw-umber-coloured. *Abdomen* clothed for most part with black hair. *Wings*: principal veins and thicker portions of veins clove-brown or dark brown. *Legs*: front tibiæ and tarsi, and under surface of front femora (in dried specimen at any rate) more or less raw-umber-coloured; under surfaces of middle and hind femora and tibiæ (in dried specimen) more or less mummy-brown; legs clothed for most part with black or blackish hair; claws black.

UGANDA PROTECTORATE: Nsadzi Island, Lake Victoria, 23. I. 1911, on fish eagle, *Haliaeetus vocifer*, Daud. (*Dr. H. J. Duke*).

Although closely allied to and resembling *Olfersia (Ornithomyia) intertropica*, Walk.,* the species described above is distinguishable by its more elongate and darker palpi, by the hairs and punctures on the inner borders of the sides of the front being fewer in number and coarser, and especially by the different shape of the shining plate on the vertex, which is more transversely elongate, and the anterior angles of which are more abruptly rounded off.

Dr. Duke, in whose honour the species is named, states that he met with two specimens of *O. dukei* on a fish eagle shot by him at the water's edge. The type specimen was moving about under the feathers; the other, which was not caught, flew round the dead bird, settled several times on Dr. Duke, and ran under his coat, but did not bite him. It flew like a Tsetse, settled abruptly, and followed for some fifty yards.

* *O. intertropica*, Walk., is a widely distributed species which, in the Sandwich Is. at any rate, is parasitic on the short-eared owl: it has not been recorded from Africa, but, besides occurring in the Sandwich Is., is also found in Mexico and Brazil. As stated elsewhere by the present writer (*cf. Ann. and Mag. Nat. Hist.*, Ser. 7, Vol. xii, p. 264, 1903), *Olfersia acarta*, Speiser, is apparently a synonym of this species.